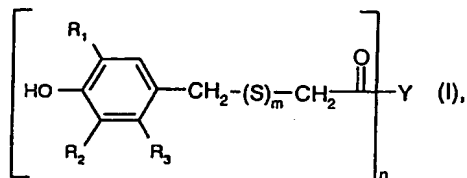


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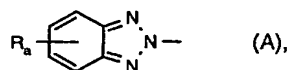
Claims

1. A process for the preparation of a compound of the formula:



wherein

one of  $R_1$  and  $R_2$  independently of one another represents hydrogen, a substituent selected from the group consisting of  $\text{C}_1$ - $\text{C}_{18}$ alkyl, phenyl,  $(\text{C}_1$ - $\text{C}_4$ alkyl) $_{1,3}$ phenyl, phenyl- $\text{C}_1$ - $\text{C}_3$ alkyl,  $(\text{C}_1$ - $\text{C}_4$ alkyl) $_{1,3}$ phenyl- $\text{C}_1$ - $\text{C}_3$ alkyl,  $\text{C}_5$ - $\text{C}_{12}$ cycloalkyl and  $(\text{C}_1$ - $\text{C}_4$ alkyl) $_{1,3}$ - $\text{C}_5$ - $\text{C}_{12}$ cycloalkyl or a group of the partial formula:



wherein

$R_a$  represents hydrogen or a substituent selected from the group consisting of  $\text{C}_1$ - $\text{C}_4$ alkyl, halogen and sulphy;

and the other one of  $R_1$  and  $R_2$  represents a substituent selected from the group consisting of  $\text{C}_4$ - $\text{C}_{18}$ alkyl, phenyl,  $(\text{C}_1$ - $\text{C}_4$ alkyl) $_{1,3}$ phenyl, phenyl- $\text{C}_1$ - $\text{C}_3$ alkyl,  $(\text{C}_1$ - $\text{C}_4$ alkyl) $_{1,3}$ phenyl- $\text{C}_1$ - $\text{C}_3$ alkyl,  $\text{C}_5$ - $\text{C}_{12}$ cycloalkyl and  $(\text{C}_1$ - $\text{C}_4$ alkyl) $_{1,3}$ - $\text{C}_5$ - $\text{C}_{12}$ cycloalkyl or a group of the partial formula (A);

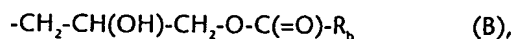
$R_3$  represents hydrogen or methyl;

$m$  represents zero or 1; and

$n$  represents a numeral from 1 to 4; and,

if  $n$  represents 1,

$m$  represents zero or 1,  $Y$  represents the monovalent groups  $-\text{O}-\text{Y}_1$  or  $-\text{N}(-\text{Y}_2)_2$ , wherein  $Y_1$  is selected from the group consisting of  $\text{C}_5$ - $\text{C}_{45}$ alkyl,  $\text{C}_3$ - $\text{C}_{45}$ alkyl interrupted by at least one O-heteroatom,  $\text{C}_5$ - $\text{C}_{12}$ cycloalkyl,  $\text{C}_2$ - $\text{C}_{12}$ alkenyl,



wherein

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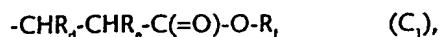
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$R_b$  represents hydrogen or a substituent selected from the group consisting of  $C_1$ - $C_8$ alkyl,  $C_3$ - $C_5$ alkenyl and benzyl and



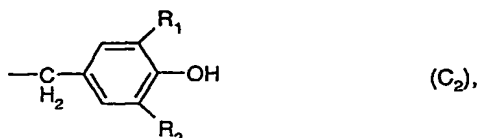
wherein

$R_c$  represents hydrogen or a substituent selected from the group consisting of  $C_1$ - $C_{24}$ alkyl,  $C_3$ - $C_{12}$ cycloalkyl, phenyl,



wherein

one of  $R_d$  and  $R_e$  represents methyl and the other one represents methyl and  $R_f$  represents hydrogen or  $C_1$ - $C_{24}$ alkyl,



wherein  $R_1$  and  $R_2$  are as defined above, and

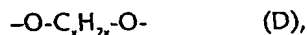


wherein  $R_g$  is as defined above; and,

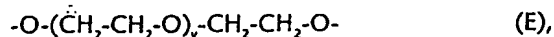
$Y_2$  represents hydroxy- $C_2$ - $C_4$ alkyl;

if  $n$  represents 2,

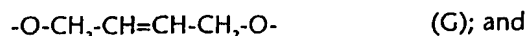
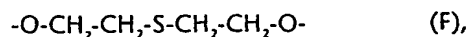
$m$  represents zero,  $Y$  represents a bivalent group selected from the group consisting of



wherein  $x$  is a numeral from 2 to 20,



wherein  $y$  is a numeral from 1 to 30,



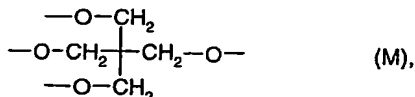
wherein  $z$  represents zero or a numeral from 2 to 10; and

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$$\begin{array}{c} \text{---O---CH}_2 \\ | \\ \text{---O---CH}_2\text{---R}_9 \\ | \\ \text{---O---CH}_2 \end{array} \quad (\text{K}),$$
COCN(CC(=O)NC(COC)C(=O)NCCOC)C(=O)NCCOC

(L),

m represents zero and Y represents a tetravalent group of the partial formula:


$$\text{HO}-\text{C}_6\text{H}_2(\text{R}_1)(\text{R}_2)(\text{R}_3)-\text{CH}_2-(\text{S})_m-\text{CH}_2-\overset{\text{O}}{\parallel}\text{C}-\text{X} \quad (\text{II}),$$

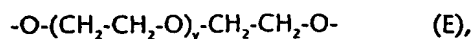
$R_1$ ,  $R_2$ ,  $R_3$  and  $m$  are as defined above and  $-X$  represents a reactive leaving group, the group  $-X$  is replaced by enzymatic catalysis with a mono-, bi-, tri- or tetravalent group  $-Y$  that corresponds to the value of the numeral  $n$ ,

if  $n$  represents 4, with the tetravalent group of the partial formula (M).

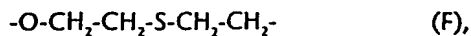
2. A process according to claim 1 for the preparation of a compound (I), wherein  
 one of  $R_1$  and  $R_2$  represents methyl, tert-butyl or the group (A), wherein  $R_3$  represents hydrogen or chloro, and the other one of  $R_1$  and  $R_2$  represents tert-butyl;  
 $R_3$  represents hydrogen;  
 $m$  represents zero or 1; and  
 $n$  represents a numeral from 1 to 4; and,  
 if  $n$  represents 1,  $m$  represents zero or 1, and  $Y$  represents the monovalent groups  $-O-Y_1$  or  $-N(-Y_2)_2$ ;  
 if  $n$  represents 2,  $m$  represents zero, and  $Y$  represents the bivalent groups (D), (E), (F), (G) or (H); or,  
 if  $n$  represents 3,  $m$  represents zero, and  $Y$  represents the trivalent group of the partial formulae (K) or (L); or,  
 if  $n$  represents 4,  $m$  represents zero, and  $Y$  represents the tetravalent group of the partial formula (M), characterised in that the process steps of claim 1 are carried out.
3. A process according to claim 1 for the preparation of a compound (I), wherein  
 one of  $R_1$  and  $R_2$  represents methyl, tert-butyl or the group (A), wherein  $R_3$  represents hydrogen or chloro, and the other one of  $R_1$  and  $R_2$  represents tert-butyl;  
 $R_3$  represents hydrogen;  
 $m$  represents zero or 1; and  
 $n$  represents a numeral from 1 to 4; and,  
 if  $n$  represents one,  $m$  represents zero or one, and  $Y$  represents the monovalent groups  $-O-Y_1$  or  $-N(-Y_2)_2$ ;  
 wherein  $Y_1$  is selected from the group consisting of  $C_3-C_{15}$ alkyl and  $C_3-C_{15}$ alkyl interrupted by at least one O-heteroatom and  $Y_2$  represents hydroxy- $C_2-C_4$ alkyl; and,  
 if  $n$  represents 2,  
 $m$  represents zero,  $Y$  represents a bivalent group selected from the group consisting of  

$$-O-C_xH_{2x}-O- \quad (D),$$
 wherein  $x$  is a numeral from 2 to 20,

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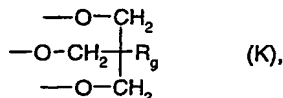
wherein  $y$  is a numeral from 1 to 30,



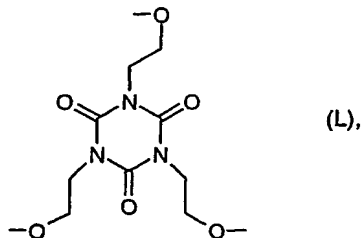
wherein  $z$  represents zero or a numeral from 2 to 10; and,

if  $n$  represents 3,

$m$  represents zero and  $Y$  represents a trivalent group selected from the group consisting of

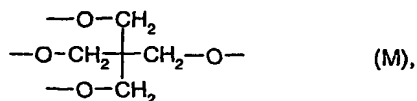


wherein  $\text{R}_9$  represents  $\text{C}_1\text{--C}_{24}$  alkyl, and



and, if  $n$  represents 4,

$m$  represents zero and  $Y$  represents a tetravalent group of the partial formula:



characterised in that the process steps of claim 1 are carried out.

4. A process according to claim 1 for the preparation of a compound (I), wherein one of  $\text{R}_1$  and  $\text{R}_2$  represents methyl, tert-butyl or the group (A), wherein  $\text{R}_3$  represents hydrogen or chloro, and the other one of  $\text{R}_1$  and  $\text{R}_2$  represents tert-butyl;  $\text{R}_3$  represents hydrogen;  $m$  represents zero or 1; and  $n$  represents a numeral from 1 to 4; and,

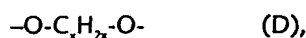
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if n represents one, Y represents the monovalent groups  $-O-Y_1$  or  $-N(-Y_2)_2$ ;

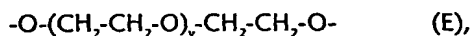
wherein  $Y_1$  is selected from the group consisting of  $C_3-C_{20}$ alkyl and  $C_3-C_{20}$ alkyl interrupted by at least one O-heteroatom and  $Y_2$  represents hydroxy- $C_2-C_4$ alkyl; and,

if n represents 2,

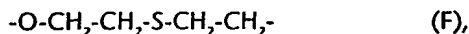
m represents zero, Y represents a bivalent group selected from the group consisting of



wherein x is a numeral from 2 to 10,



wherein y is a numeral from 1 to 10,



wherein z represents zero or a numeral from 2 to 10; and,

if n represents 3,

m represents zero, and Y represents the trivalent group (L); and, if n represents 4, m represents zero and Y represents a tetravalent group (M),

*characterised in that* the process steps of claim 1 are carried out.

5. A process according to claim 1 for the preparation of a compound (I), wherein

one of  $R_1$  and  $R_2$  represents methyl or tert-butyl and the other one of  $R_1$  and  $R_2$  represents tert-butyl;

$R_1$  represents hydrogen;

m represents zero or 1; and

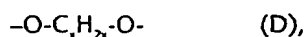
n represents a numeral from 1 to 4; and,

if n represents 1, Y represents the monovalent groups  $-O-Y_1$  or  $-N(-Y_2)_2$ ;

wherein  $Y_1$  is selected from the group consisting of  $C_3-C_{20}$ alkyl and  $C_3-C_{20}$ alkyl interrupted by at least one O-heteroatom and  $Y_2$  represents hydroxy- $C_2-C_4$ alkyl; and,

if n represents 2,

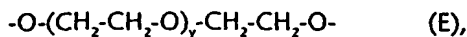
m represents zero, Y represents a bivalent group selected from the group consisting of



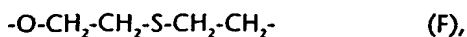
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wherein x is a numeral from 2 to 10,



wherein y is a numeral from 1 to 10,



wherein z represents zero or a numeral from 2 to 10; and,

if n represents 3,

m represents zero, and Y represents the trivalent group (L); and, if n represents 4, m represents zero and Y represents a tetravalent group (M),

*characterised in that the process steps of claim 1 are carried out.*

6. A process according to claim 1 for the preparation of a compound (I), wherein

$R_1$  represents tert-butyl;

$R_2$  represents the group (A), wherein  $R_3$  represents hydrogen or chloro;

$R_3$  represents hydrogen;

m represents zero;

n represents 1; and

Y represents the monovalent group  $-\text{O}-Y_1$ ;

wherein  $Y_1$  is selected from the group consisting of  $\text{C}_5$ - $\text{C}_{20}$ alkyl and  $\text{C}_3$ - $\text{C}_{20}$ alkyl interrupted by at least one O-heteroatom,

*characterised in that the process steps of claim 1 are carried out.*

7. A process according to claim 1, characterised in that the reactive leaving group  $-\text{X}$  in a compound (II) is a methoxy group.
8. A process according to claim 1, characterised in that the enzymatic catalysis is carried out with an enzyme selected from the group consisting of esterase, lipase and protease.
9. A process according to claim 1, characterised in that the enzymatic catalysis is carried out with enzymes immobilised on a support material or carrier, to which they are linked chemically or physically.
10. A process according to claim 1, characterised in that the mono-, bi-, tri- or tetravalent group Y that corresponds to the value of the numeral n is derived,

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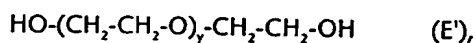
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if n represents 1, from an alcohol HO-Y, or an amine HN(-Y)<sub>2</sub>;

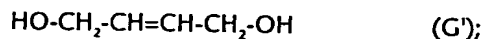
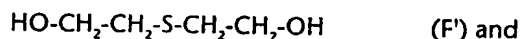
if n represents 2, from a dihydroxy alcohol selected from the group consisting of



wherein x is a numeral from 2 to 20,



wherein y is a numeral from 1 to 30,

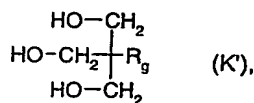


from hydrazine or a diamino compound

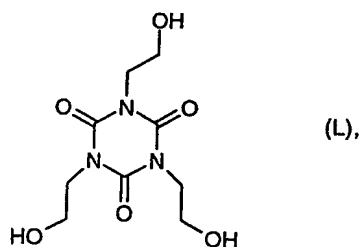


wherein z represents zero or a numeral from 2 to 10; and,

if n represents 3, from a trihydroxy alcohol Y selected from the group consisting of



wherein R<sub>g</sub> represents C<sub>1</sub>-C<sub>24</sub> alkyl or phenyl, and



and, if n represents 4, from pentaerythritol.

#### 11. A composition comprising

- a compound (I), wherein R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, m, n and Y are as defined in claim 1; and
- an enzyme catalyst that catalyzes in a compound (II) the removal of the reactive leaving group -X with a mono-, bi-, tri- or tetravalent group -Y.

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